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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,262	03/16/2001	Toru Tsukada	Q63051	6379

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EXAMINER

KIM, CHONG HWA

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/809,262

Applicant(s)

TSUKADA ET AL.

Examiner

Chong H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>20</u> . | 6) <input type="checkbox"/> Other:  |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 17, 19-21, 23, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Yabe et al., U.S. Patent 6,004,039.

Yabe et al. shows, in Fig. 11, a feed screw device comprising;

a screw shaft S;

a nut member 3 threadably engaging an outer periphery of the screw shaft;

a lubricant supply device 4a having an insertion hole formed in an outer periphery side thereof, the lubricant supply device coming in contact with the outer periphery surface of the screw shaft, such that a portion of the lubricant supply device which contacts the outer peripheral surface of the screw shaft comprises a material including a lubricant;

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a retaining ring 22 for retaining the lubricant supply device, the retaining ring extends radially beyond the lubricant supply device;

a projection B2 formed on the retaining ring and disposed so as to be received in the insertion hole, such that the projection extends circumferentially less than all of the way around the screw shaft;

in which the lubricant supply device has a cut part (between lip parts 41b) at a place in the circumferential direction;

in which the lubricant supply device comprises a plurality of lip parts 41b projecting toward the screw shaft and which come in sliding contact with the outer peripheral surface of the screw shaft;

wherein the retaining ring is fixedly secured to the nut member, and projection formed on the retaining ring prevents the lubricant supply device from rotating with the screw shaft;

in which the portion of the lubricant supply device which contacts the outer peripheral surface of the screw shaft comprises a rubber material including the lubricant or a synthetic resin material including the lubricant; and

wherein the retaining ring is fastened to a circumferential end face of the nut member.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17, 18, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson, U.S. Patent 3,532,004 in view of Masutani et al., U.S. Patent 5,401,574 and in view of Sugihara et al., U.S. Patent 5,695,288.

Nilsson shows, in Fig. 1, a feed screw device comprising;

a screw shaft 10;

a nut member 11 threadably engaging an outer periphery of the screw shaft;

a lubricant supply device 15 coming in contact with the outer periphery surface of the screw shaft;

a retaining ring (an element that covers the seal) for retaining the lubricant supply device, the retaining ring extends radially beyond the lubricant supply device;

in which the nut member is provided with a recess portion, wherein the retaining ring retains the lubricant supply device within the recess portion;

in which the lubricant supply device comprises a plurality of lip parts projecting toward the screw shaft and which come in sliding contact with the outer peripheral surface of the screw shaft;

wherein the retaining ring is fixedly secured to the nut member;

wherein a spiral projection is formed on an inner peripheral surface of the lubricant supply device, the spiral projection fitting into a threaded groove 12 of the screw shaft; and

wherein the retaining ring is fastened to a circumferential end face of the nut member;

but fails to show a portion of the lubricant supply device comprising a material including a lubricant; and a projection formed on the retaining ring to be disposed in an insertion hole formed in an outer periphery of the lubricant supply device.

As to the matter of the lubricant supply device including lubricant material, Masutani et al. discloses a lubricant supply device comprising a rubber material including a lubricant or a synthetic resin material including a lubricant.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the sealing and cleaning lubricant supply device of Nilsson with the synthetic resin lubricant supply device having a lubricant therein as taught by Masutani et al. in order to provide a less maintenance that reduces labor cost to maintain.

As to the matter of a projection formed on the retaining ring, Sugihara et al. shows, in Fig. 4, a retaining ring 78 for retaining a lubricant supply device 77; a projection 75 formed on the retaining ring and disposed so as to received in the insertion hole, such that the projection extends circumferentially less than all of the way around the screw shaft; the projection formed on the retaining ring prevents the lubricant supply device from rotating with the shaft 71.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the projection as suggested by Sugihara et al. on the retaining ring of Nilsson in order to provide a more securing device to prevent relative movement between the lubricant supply device and the nut member so that more foreign particles may be prevented from entering the device.

6. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson in view of Masutani et al. and in view of Sugihara et al. as applied to claims 17 above, and further in view of Spontelli, U.S. Patent 2,818,745.

Nilsson in view of Masutani et al. and in view of Sugihara et al. shows, as discussed above in the rejection of claim 17, the feed screw device comprising the lubricant supply device, but fails to show a cut part in the circumferential direction in the lubricant supply device.

Spontelli shows, in Figs. 2-5, the feed screw device comprising a wiper assembly (or lubricant supply device) 17 comprising a cut part (as shown in Fig. 5) in the circumferential direction; wherein the cut part extends radially from an innermost circumferential surface of the lubricant supply device to an outermost circumferential surface of the device.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the lubricant supply device of Nilsson in view of Masutani et al. and in view of Sugihara et al. with the wiper assembly having a cut part as taught by Spontelli in order to provide a more engaging device so that the supply of the lubricant and preventing of the dust can be realized to increase the life expectancy of the feed screw device.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 17-25 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Monday - Friday; 9:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

chk

June 11, 2003



CHONG H. KIM  
PRIMARY EXAMINER